

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

1. (Previously Presented) A communications system comprising  
a number of core networks with a plurality of core network functional server  
nodes (core nodes) arranged in a pool and  
a number of radio access networks, each with a number of radio access network  
control nodes that support pooling of core nodes;  
a mobile station (MS) moving from a first radio access network (RAN) control  
node that does not support pooling of core nodes to a second RAN control node that  
does support pooling of core nodes, wherein the first RAN control node is served by a  
first core node belonging to the pool and,  
means in the first core node for enabling the mobile station to remain connected  
to said first core node, said means providing a temporary mobile station identity  
(temporary MS id)((P)-TMSI), including a unique identity of the first core node within the  
core node pool.
2. (Previously Presented) The communication system according to claim  
1, wherein said means for enabling the mobile station to remain connected, further  
comprises:  
means for generating and allocating said temporary mobile station identity and  
said first core node identity, wherein said first core node identity is unique to the core  
node pool said temporary mobile station identity including a pool identification (NRI) for  
uniquely identifying the pool to which the first core node belongs said NRI being  
included in a modified mobile station routing/location area update message, and when  
the mobile station moves from the coverage of the first RAN control node to the  
coverage of the second RAN control node, said modified routing/location area update

message including the NRI is relayed to said first core node from said second control node.

3. (Previously Presented) The communication system according to claim 2, wherein movement of the MS provides an intra core node intersystem change.

4. (Previously Presented) The communication system according to claim 1, wherein at least one of the core nodes of the pool comprises a dual or multimode core node that supports access over more than one radio access network, said radio access networks implementing different radio access technologies.

5. (Previously Presented) The communication system according to claim 1, wherein said first and second control nodes belong to the same radio access network, a first part of the radio access network not supporting pooling and containing said first control node and a second part of the network supporting pooling and containing said second control node.

6. (Previously Presented) The communication system according to claim 1, wherein the core nodes comprise Serving GPRS Support Nodes (SGSNs) and the control nodes comprise Base Station Controllers (BSCs) for GSM communication and Radio Network Controllers(RNCs) for UMTS communication using WCDMA radio access technology.

7. (Previously Presented) The communication system according to claim 1, wherein at least some core nodes comprise Mobile Switching Centers (MSC) for circuit switched communication and at least some of the control nodes are Base Station Controllers (BSCs).

8. (Previously Presented) The system according to claim 1, wherein said first and second control nodes belong to the same radio access network, comprising at

least two radio access technologies and one of the radio access technologies does not support pooling of core nodes.

9. (Previously Presented) The system according to claim 4 wherein the first and second control nodes support different radio access technologies, and the first control node comprises a dual mode access node.

10. (Previously Presented) The system according to claim 9, wherein the first control node is an UMTS RNC not supporting pooling of core nodes, and the second control node is a GSM BSC supporting pooling of core nodes.

11. (Previously Presented) The system according to claim 9, wherein the first control node is a GSM BSC not supporting pooling of core nodes, and the second control node is a UMTS RNC node supporting pooling of core nodes.

12. (Previously Presented) The system according to claim 1 wherein the first core node of a pool allocates a temporary mobile station identity ((P)-TMSI) with pool identification (NRI) to a connecting/attaching mobile station whether or not the mobile station connects to a control node supporting pooling of core nodes or to a control node not supporting pooling of core nodes.

13. (Previously Presented) The system according to claim 12, wherein the temporary mobile station comprises a (P) -TMSI modified with a pool identification comprising the NRI.

14. (Previously Presented) The system according to claim 13, wherein said pool identification (NRI) is included in mobile station (MS) Routing/Location Area Update messages provided to the second control node.

15. (Previously Presented) The system according to claim 13 wherein the first core node uses the Gb-flex/lu-flex mechanism for allocating a temporary mobile station identity comprising pool unique identity whether the radio access networks (parts of networks) are not lu-flex/Gb-flex enabled.

16. (Previously Presented) A core network functional server node (core node) in a communication system forming part of a pool of core nodes for serving a radio access network (RAN) to which a mobile station may connect over a RAN control node the core node comprising:

means for generating a temporary mobile station identity; and

means for enabling the mobile station to remain connected to the core node during movement of the mobile station said means providing a temporary mobile station identity (temporary MS id)((P)-TMSI), including a unique identity of the core node within the pool of core nodes;

wherein the generating and allocating means enables the mobile station (MS) to stay connected to the core node during movement of the MS from a first control node that does not support pooling of core nodes to a second control node that does support pooling of core nodes.

17. (Canceled)

18. (Previously Presented) The core node according to claim 16, wherein the temporary mobile station identity is generated and allocated upon entering the area served by any core node forming part of the pool whether or not the mobile station is connected to a control node supporting pooling of core nodes.

19. (Previously Presented) The core node according to claim 18, wherein said temporary mobile station identity is included in a routing/location area update message relayed from the second control node to the first-core node keeping the mobile station connected to the core node.

20. (Previously Presented) The core node according to claim 19, wherein a mobile station transition from the first control node to the second control node comprises an intra core-intersystem change.

21. (Previously Presented) The core node according to claim 16 wherein the core node comprises a dual or multimode core node that supports access over at least two radio access network by implementing different radio access technologies.

22. (Previously Presented) The core node according to claim 16 comprising a Serving GPRS Support Node (SGSN).

23. (Previously Presented) The core node according to claim 16 comprising a Mobile Switching Center (MSC).

24. (Previously Presented) The core node according to claim 21 wherein the core node uses the Gb-flex mechanism or the lu-flex mechanism for allocating a modified temporary mobile identity including a pool identification to a mobile station and the transition from the first control node comprises an intra SGSN intersystem change.

25. (Previously Presented) A method for handling connection of a mobile station comprising a number of core networks associated with a plurality of core network functional server nodes (core nodes) and a number of radio access networks (RAN), each RAN having a number of radio access network control nodes, wherein some of the plurality of core nodes are arranged in a pool for controlling some of the RAN control nodes: the method comprising the steps of:

a first core node generating a temporary mobile station identity for enabling the mobile station to remain connected to said first core node, said means providing a temporary mobile station identity (temporary MS id)((P)-TMSI), including a unique identity of the first core node within the core node pool.

allocating the temporary mobile station identity and a pool identity to the mobile station upon connecting to a first RAN control node;

the mobile station moving from a first routing area controlled by a first RAN control node that does not support pooling of core nodes to a second routing area that is controlled by a second RAN control node that does support pooling of core nodes the mobile station still connected to the first RAN control node, the first RAN control node served by the first core node forming part of the pool of core nodes; and

keeping the mobile station connected to said first core node until the mobile station again enters a routing/location area controlled by a RAN control node not supporting pooling of core nodes.

26. (Previously Presented) The method according to claim 25, further comprising the steps of:

- allocating the temporary mobile station identity, including the pool identification, to the mobile station upon connecting to the first RAN control node whether or not the first RAN control node supports pooling of core nodes;
- including the pool identification in a message relating to change/updating of routing/location area when the mobile station moves to a routing/location area covered by the second RAN control node supporting pooling of core nodes;
- relaying the routing/location area change/updating message to the first core node from the second radio access network control node.

27. (Previously Presented) The method according to claim 26, wherein said first and second RAN control nodes belong to the same radio access network and implement the same radio access technology.

28. (Previously Presented) The method according to claim 25, wherein the first core node comprises a dual or multimode access node supporting at least two radio access technologies.

29. (Previously Presented) The method according to claim 28, wherein the first control node is an UMTS RNC and the second control node is a GSM BSC or the first control node is a GSM BSC and the second control node is a UMTS RNC.

30. (Previously Presented) The method according to claim 25 wherein the first core node comprises a Serving GPRS Support Node.

31. (Previously Presented) The method according to claim 25 wherein said first core node comprises a mobile switching center (MSC).